Biotechnologies towards Sustainable Development in Malaysia

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Screening of mangrove plants for gram negative antibacterial activity

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Introduction

Mangrove ecosystems provide a unique and valuable range of resources. Mangrove plants are said to have a bright potential in pharmaceutical resources in medical world due to its richness of bioactive compounds. Plants release chemical compounds through their roots and leaves which prevent the growth of invasive plants and algae that may compete with the plants in its immediate ecosystem. This phenomenon is termed 'allelopathy' and is referred to any biochemical interaction among plants, including microorganisms (Rice, 1974). Chemical compounds released by plants have wide medical applications. Mangrove plants are rich in steroids, triterpenes, saponins, flavonoids, alkaloids and tannins (Bandaranayake, 1995). They are among the metabolites which are useful as medicine.

Rhizophora is reported as one of the popular folklore medicines. The root, leaf and stem extracts of *Rhizophora* trees have been found to inhibit the growth of various human pathogenic organisms including bacteria, fungi and viruses (Hernandez and Perez, 1978). For red mangrove trees the bark has been used to cure a wide array of diseases (Duke and Wain, 1981).